



LAMPREY RIVER ADVISORY COMMITTEE  
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February 27, 2009

Mr. Wayne Ives, P.G.  
Watershed Management Bureau  
New Hampshire Department of Environmental Services  
29 Hazen Drive, P.O. Box 95  
Concord, NH 03302-0095

RE: Draft Lamprey River Proposed Protected Instream Flow Report  
December 9, 2008

Dear Mr. Ives:

The Lamprey River Advisory Committee (LRAC) has reviewed the subject report and offers the following comments:

- 1) This report summarizes activities conducted to establish minimum flow rates in the Lamprey River that are needed to ensure the identified instream public uses, outstanding characteristics and resources (IPUOCRs) are not adversely impacted by insufficient river flows. This report is the culmination of more than four years of study and will be the foundation for the eventual Water Management Plan (WMP). The WMP will dictate how dam owners and water withdrawers are to coordinate water management activities to ensure minimum flows are met. Therefore it is critically important the study methods and results be presented in a clear, concise and readily understood manner so that all Lamprey River stakeholders are able to obtain a solid grasp on what the minimum flows are and how they were established.
- 2) LRAC found the Executive Summary confusing and lacking fundamental information. We suggest the Executive Summary be expanded in manner so that it is a "stand alone", all encompassing review of all the Lamprey River Flow studies conducted to date. For many stakeholders and elected officials, the subject report is likely the only report they will read therefore it should include a timeline, legislative authority, and summary of the activities and results of Tasks 1 through 4 of the Lamprey River Flow studies.
- 3) Table 1 in the report "Protected Instream Flow Criteria for Fish in the Lamprey Designated River" presents the minimum flow rates on the Lamprey River for various times of the year (bioperiods), for different fish, for different minimum durations and different frequencies. We understand the minimum flows in this

table will be the controlling flows for the water management plan. This table needs to be simplified and made much easier to understand. We request this table be made into a graph (s) that has time of year on the x-axis and flow rate on the y-axis. The controlling minimum flow should then be plotted on the graph for the various times of the year. We note the Executive Summary for the Souhegan River Instream Flow Study included graphs and in general was more comprehensive.

- 4) The report appears to suggest the USGS river gage at Packers Falls will be the only gage used to monitor compliance with the minimum flows throughout the designated reach of the Lamprey River. LRAC believes one gage is inadequate to monitor flows for the WMP and requests the report include an analysis/discussion on the number and location of river flow gages needed to adequately monitor flow.
- 5) Because the most critical time to have accurate measurement of flows is during low flow periods, the USGS Packers Falls gage and future additional gages should be calibrated to read accurately in the 1 to 100 cfs range.
- 6) Page xxx of the Executive Summary states the lowest recorded Lamprey River flow in the last 30 years was 3.7 cfs. As the lowest recorded flow, it goes to recommend that Lamprey River flow be managed so that flows never go below this value. This statement appears to suggest this flow will be the controlling, default minimum flow for all bioperiods, frequencies and durations. Please elaborate on how this 3.7 cfs flow is to be used in the eventual water management plan.
- 7) We understand the minimum flows were established using the Natural Flow Paradigm. This paradigm assumes there are no natural or manmade made impoundments on the river. Please elaborate on how minimum flows developed assuming there are no impoundments are to be applied in the WMP to a river that has impoundments.
- 8) New Hampshire law RSA 483:9-C, Establishment of Protected Instream Flows paragraph III states in part "*The procedure adopted under this section shall include an assessment of the effect of a protected instream flow upon existing hydroelectric power generation, water supply, flood control, and other riparian users....*" Please state how this requirement, exclusive of hydroelectric power, was addressed in the report.
- 9) Page Roman numeral xxx (xxix on some reports) states "*The lowest naturalized flow recorded in the last 30 years was 3.7 cfs at the Packers Falls gage*". Please clarify if this flow rate is from actual data from the flow gage or a synthesized flow rate from a hydraulic model.

- 10) Page xxix states a comprehensive analysis was conducted to determine the flows necessary to support the needs of fish, riparian vegetation, wildlife and human uses. This analysis concluded the protected entity with the highest flow need, (therefore the controlling flow) were various types of fish. Table 1 summaries the minimum flow needs for various fish species. Earlier studies concluded both fish and mussels are a primary indicator of ecological integrity. The 2006 IPOCR Final Report notes that the brook floater mussel is extremely vulnerable to inadequate flow conditions and would be evaluated using MesoHABSIM. Please elaborate on how the flow needs of mussels will be satisfied with the flows outlined in Table 1.
- 11) It was not clear how the synthesized flows developed for the Natural Flow Paradigm were developed. The report should include a description of the hydraulic model and the methodology used to establish these flow rates.

LRAC appreciates the years of effort NHDES and the Normandeau Team have put in to the development of the PISF minimum flows. We understand development methods and concepts are very sophisticated. However, the report's value is severely diminished if Lamprey River stakeholders can not readily understand the results. We therefore encourage modifications, in addition to the one listed above, that will make the report more transparent.

Thank you for the opportunity to review this report and we look forward to the incorporation of our comments into the report.

Sincerely,

Sharon Meeker, Chair  
Lamprey River Advisory Committee